

FURTHER OBSERVATIONS ON DIONAEA MUSCIPULA

by Steve Clemesha

In the June, 1974 issue of CPN (CPN 3:22-23, 1974), I put in a note on some variations that occur within Dionaea. Further observations since then have confirmed most of the points established then and added some new ones. Dionaea, though a monotypic genus with relatively small distribution, varies greatly in several points. Some individual plants have been selected out and given cultivar names in Japan. Since I acquired these I have received additional material which in some cases is intermediate between the original forms.

All the points in which Dionaea varies have been observed before but often assumed to be only a temporary condition or the result of environment. Certainly there is environmental influence, so the observations below are on plants that have been in cultivation in a fully sunlit location. All plants are side-by-side under more or less identical conditions. The points in which Dionaea varies are as follows:

1. Petiole length. At the end of the growing season and also near the beginning of the new one, plants produce a winter rosette of traps on short, broad prostrate petioles. At this stage, plants of all forms are fairly similar. It is in the growing season that the variants show up. One extreme form produces summer traps on petioles which are short and prostrate and show no difference from the winter condition. Most, however, differ to a varying degree. Summer petioles in most forms are longer and more slender than the winter ones. The most extreme forms are more than twice the length of the winter ones. Other forms are shorter but still taller and more erect than the winter ones. In these, winter traps start to form earlier than in the taller forms. Petiole shape varies from parallel to tapered and some forms produce more graceful petioles than others.

2. Color. This factor is more difficult to study than petiole length as some plants that produce dark-colored traps when half grown produce lighter ones when mature, and trap color varies considerably throughout the season as well. Usually, forms that produce dark-colored traps are similarly colored at the center of the rosette and here the color seems more stable. Because of variation through the season, I have been able to select only some very subtle variants with one exception: that is a very pale form which at times of the year looks like an albino, but more often at least some traps have light coloring inside. In this plant the rosette center lacks color.

3. Size. In several U.S. catalogs I have seen Dionaea "bulbs" graded according to size. These seem to be "seedlings" three to five years old, medium bulbs which are five to ten years old, and large or giant bulbs ten years of age or older. I find these size classifications amusing as under my backyard conditions plants will reach maturity from seed in four or five years and an odd plant will do so in a little more than three. Once a plant approaches "medium" size, it will reach full maturity in a season. While it is possible that under poor conditions, under lights, or other artificial situations plants may grow more slowly, they should rarely, if ever, be as slow as the commercial dealers classification implies.

There do seem to be clones of Dionaea that produce traps consistently smaller than others. My completely prostrate form makes traps which are only two-thirds the size of the others. As these are crowded and on short prostrate petioles, they give the impression of being smaller still. At first I believed that these plants were immature but all have remained the same and have not enlarged for three years and are obviously healthy. All my other plants produce larger traps. Their sizes are too similar to select variations except in one case. This is a tall form which has traps also smaller than the others. The degree, however, is not so much so that it is not impossible the trap size will increase next season.

A study of more populations of Dionaea may reveal further variation in this most interesting plant.

PACKAGING CARNIVOROUS PLANT SEED

by James C. Fife

At one time or another, you will find it necessary to package seed you collected from your carnivorous plants. If you do like most people and place the seed in a coin or bank envelope, you may be defeating your objective by increasing seed loss. When CP seed are put in envelopes such as this, whether sealed with mucilage (licking to moisten) or tape, during handling some seed usually manage to get stuck on the mucilage or tape. The "stuck" seed must then be picked off one at a time; for Sarracenia this isn't too difficult, but for Drosera and Nepenthes, plucking them off tape is next to impossible. I once lost an entire year's harvest of Drosera capillaris seed this way! Needless to say, I was very angry.

I suggest you take a piece of wax paper about three or four inches square and fold it in half. It is then folded again, perpendicular to the first fold, on both sides to produce a small wax paper envelope. Be sure to crease the folds well. At no time should tape be

used to keep the folds closed. You may now deposit your seed in the small pocket formed. Now fold the top flap down at least half an inch, creasing it firmly. The creasing tends to keep the envelope from opening up. Tape is not used, for in the event a few seeds work their way out, you wouldn't want them stuck on a piece of tape.

This small envelope is then placed in another envelope made the same way using identical materials, but this one should be slightly larger. On this outer envelope you may now use tape to secure the folds. I also use a small piece of adhesive (surgical) tape as a label, indicating the species and date seed were collected. The wax paper makes an envelope which is transparent, making a quick check of seed very simple. Also, the materials necessary to make these envelopes are very inexpensive and readily available. They can be made ahead of time for those who expect a large harvest or they may be made on the spot as needed. I have found them to work very well, and refrigeration doesn't hurt them at all.

NOTES ON PROPAGATION
by Sam Potter

I thought I would share some of my own propagating hints in short note form:

1. Many, not all, Droseras and Pinguiculas may be easily propagated on water. The method is very simple and effective. I float the leaves on bottled water (distilled or spring water) in clear plastic cups covered with "Stretch-n-Seal" and keep these within 6"-10" of double-tube 4' grow-lux wide spectrum set up on an 18-hour light cycle. Once the plantlets are formed, they may be separated and potted up or placed in terrariums.
2. I find that a mixture of 1 part German peat to 4 parts silica sand ("play sand") to be just as good as live sphagnum for growing most Drosera in closed containers.
3. "Tender Leaf" house plant spray by Dexol of Torrance, California can be used safely and effectively on Drosera, Pinguicula, Sarracenia, Cephalotus, Dionaea, and Utricularia (aquatics not tested).
4. By drawing on propagation knowledge in other plant families, I have discovered a method to get up to 25 plantlets out of a single Pinguicula leaf. A healthy leaf is gently removed and is sliced longitudinally with a razor blade for about 1/2 to 3/4 of its length starting at the proximal end (the end of attachment to the plant). I then place the leaf flat on live sphagnum, slightly covering the proximal end. "Rootone" can be used to advantage on the ventral (under) side and proximal end of the leaf, but is not necessary. Many plantlets will develop along the cut edges.
5. Leaves from resting Pinguicula buds may be used for propagation in the usual manner. This obviously takes up less space than the fully expanded vegetative leaves.
6. Pinguiculas do not like to have their root systems disturbed--Droseras and other CP are not so fussy. I find that if they have a good root system, Pinguiculas, in general, can be grown wet. In trying to establish a good root system, keep them only damp.
7. When trying to germinate Drosophyllum seeds, we often find very poor germination. Do not discard those ungerminated seeds. I am still getting germination on seeds that were planted one year ago and left untouched in a covered container.
8. Better germination of Drosophyllum seeds may be obtained by soaking the seeds overnight in a dishwashing solution of "Calgonite"--a surfactant. Many other surfactants would presumably work as well.
9. I find excellent response to foliar feeding of 1/6 strength "Spoonit" fertilizer.
10. The best mix I have come up with for epiphytic or semi-epiphytic Utricularias is: 4 parts silica sand ("play sand") and 1 part German peat moss. Water with 1/6 strength "Spoonit" fertilizer. Please note: there is a big difference in growth rate when using dilute fertilizer. This mixture is also the best I have found for seed germination of any CP.

DROSERA BURMANNI IN QUEENSLAND, AUSTRALIA
by George Ashley

This is a most unpredictable plant. My first encounter with it was the sixth month of 1966 when a friend in Melbourne asked me to look for it. I found it quite close to home, but after a few weeks it disappeared and I have not found it in that spot since. A quarter of a mile away I found another patch and again in August I found large patches after a lot of rain. These were small seedlings and grew under water; however, dry weather quickly dried them up and only one or two plants were left and flowered when only one-half inch in diameter.

This year I found another batch quite close to the others but unfortunately they are now under a large industrial building. The latest find are growing on a slight southern slope and there is a slight soakage coming through keeping the ground moist. Those do not grow very big, only about 1 1/4 inches across, and are a pale yellowish-green growing amongst short grass and often covered. The only way I have ever found them is by noticing the flower scape sticking up through the grass. Other times I have seen them growing up on ground out in full sun and